

Using Social Learning Theory to Explain Individual Differences in Human Sexuality

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To explain individual differences in human sexual expression, investigators most often stress either physiological or experiential determinants. Psychologists commonly espouse some variant of learning theory (classical conditioning, operant conditioning, or social learning theory) as an explanatory framework and a source of hypotheses and methodology. The historical use of social learning theory is described in this article, and we review its central aspects and provide examples of sexuality research in which it plays a major role. Specifically, we describe both early and current research in four broad topic areas: sexuality development, adolescent sexuality and contraceptive use, health-related sexual behavior, and coercive sexuality. Social learning theory is then evaluated and compared with competing theories regarding its ability to explain empirical data, its predictive utility, and its parsimony.

Current social learning theory (sometimes referred to as modeling, observational learning, or vicarious learning) incorporates elements of operant conditioning (or radical behaviorism) and social cognition. The modern genesis of social learning theory is found in personality theory, specifically, Rotter's desire to explain individual variation in behavior without reference to psychodynamic models (Rotter, 1954). Rotter (1954, 1982) assumed that behavior is goal directed and emphasized expectations of reward and perceived values of rewards as the basis for modeling one's behavior on that of others. Rewards for desired behavior are presumed to reinforce that behavior, an assumption that operant theorists may recognize as similar to operant conditioning. The importance of adding the assumption of expectancies in social learning, however, is that one behavior can be chosen over another or increased in frequency or intensity without direct reinforcement (in contrast to classical or operant learning theories). Rotter's conceptualization of social learning as a contributor to personality led to his work on locus of control, which he termed internal/external control of reinforcement (Rotter, 1966, 1990). Cognitive ele-

ments are introduced via individually generated expectancies about rewards, with the expectancies acting as reinforcers of behavior. Most of Rotter's work was not concerned with sexual behavior, but his conceptualizations are certainly applicable to sex. Sexual pleasure and expectancies about sexual pleasure are among the most potent of all reinforcers (Hovell et al., 1994). Moreover, in Rotter's (1954) hierarchy of expectancies, love and affection are at the top. Another leading social learning theorist, Mischel, further emphasized the role of cognition (Mischel, 1973), remarking that the existence of cognitions is evident from variation in individual behaviors in the same environmental contingency. That is, if there are no personality differences, there should be no within-situation behavioral variation among individuals.

Sexuality theorists and researchers have made full and continuous use of social learning theory: Research in this review spans almost the full 40-year history of modern social learning. Although this research spans the breadth of human sexuality, a substantial portion falls into one of four broad categories. These categories are the development of sexuality, adolescent

sexuality and contraception, health-related sexual behavior, and models of coercive sexual behavior.

From the standpoint of the amount of research produced, the social learning paradigm has been of prodigious use, both in general and specifically in terms of the study of human sexuality, and social learning theory and derived variables enjoy continued popularity. Nonetheless, there are gaps, both in terms of which social learning formulations are used and which components of human sexuality are studied. Furthermore, with the emergence of complex biosocial models (e.g., Belsky, Steinberg, & Draper, 1991), the social learning paradigm has new competition as an overarching paradigm beyond behavioral and psychodynamic perspectives.

Historical Emergence of Theory

As previously mentioned, modern social learning theory was developed in the mid-1950s, initially by Rotter,

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but with major contributions soon after by Bandura and Mischel. Because the elements of social learning theory were drawn from behaviorism, a few words on the application of classical and operant conditioning to sexual behavior will help place social learning theory into historical context.

Initially, classical conditioning had the greatest impact in explaining the origins of sexual behavior, for example, therapy (Wolpe, 1958), using both conditioning and counter-conditioning. Systematic desensitization was employed to replace negative responses to erotic cues (e.g., fear and anxiety) with positive responses (e.g., relaxation, sexual arousal). The reverse procedure, systematic sensitization (or aversive conditioning), associates unpleasant emotions (e.g., pain or anxiety) with undesired (or "undesirable") erotic cues. Skinner's operant conditioning, the reinforcement or punishment of initially unconditioned behaviors, has had less impact on sex research than classical conditioning. Anecdotally, in the distant and insensitive past, a male graduate student in the field of learning claimed that he was able to "shape" the sexually relevant responses of his dates by rewarding any act that represented at least a partial element of what he hoped would be the intended goal. Beyond that, the use of operant techniques has occasionally been reported in therapy. Rosen (1973), for example, identified the efficacy of contingent feedback in reducing penile tumescence (using a red light as feedback, appropriately enough). Studies with more direct clinical applications exist: LoPiccolo and Lobitz (1972) stimulated awareness of pleasurable feedback during masturbation to treat orgasmic dysfunction in women.

Although the foregoing research was focused on application and largely confined to therapeutic interventions designed to alleviate sexual dysfunctions or alter sexual preferences, these investigations clearly

indicate numerous ways in which sexual behavior can be responsive to reinforcement contingencies. Social learning emerged from learning because social learning theorists were able to take us beyond behavior modification. In contrast to the two forms of conditioning, the implications of social learning theory to sexuality have been more general, ranging from the treatment of sexual dysfunction (Nemetz, Craig, & Reith, 1978) to the effects of erotic imagery on emotion, cognition, and overt behavior (Byrne, 1977). Social learning theory remains one of the most widely employed theoretical stances in current psychology, although there have been numerous revisions and extensions (e.g., Bandura, 1986; Grusec, 1992; Kihlstrom & Harackiewicz, 1990; Palenzuela, 1987) of the basic concepts explicated by Rotter (1954). To illustrate the emergence and breadth of this usage, we review the role of social learning theory in one of the most fundamental aspects of sexual behavior, the development of sexuality within individuals followed by a synopsis of "early" sexuality research involving social learning theory.

Social learning theory and the development of sexuality. Most sexuality research and theory prior to the advent of the social learning formulations tended to rely on a psychodynamic conceptualization (see Gagnon, 1975, for a review). Typically, sexuality has been depicted as a biological drive/force in Freudian psychodynamic theory, which is very different from its depiction in the more cognitively oriented social learning theories. Gagnon (1975) also pointed out that cognitive social learning, which treats human sexuality as at least partly learned and cognitively oriented, is a relatively new concept of sexuality. Rotter (1954), for example, acknowledged the primary importance of love and affection (not necessarily confined to sexual relationships) in framing expectancies. This importance, however, is based on the anticipation of pleasure (i.e.,

reinforcement) stemming from these two emotions. Indirectly, Bussey and Bandura (1984) referred to the powerful effects of sexuality (via gender constancy) in reciprocal determinism while providing evidence that modeling serves as the underlying root of gender constancy. In short, social learning theorists believe in the powerful reinforcing value of sexuality and sexuality-related variables at all ages, but tend to dismiss the notion of sexuality as an exogenous force such as a drive.

Early sexuality research within the social learning paradigm. After the publication of the Kinsey group's data (Kinsey, Pomeroy, & Martin, 1948; Kinsey, Pomeroy, Martin, & Gebhard, 1953), sexuality researchers had access to a substantial amount of behavioral information. Many theorists worked within a psychodynamic perspective, but others in the 1960s and early 1970s incorporated Rotter's concept of expectancies in both explaining and predicting sexual behavior. These early studies drew mostly upon Rotter, in part because Bandura's work was relatively new and Mischel was in the process of incorporating his concept of the interaction of personality and situations.

Wide variation in obscenity laws at this time stimulated a political interest in establishing the effects of pornography upon behavior (Gagnon, 1975), especially sexual behavior (e.g., Cairns, 1971; Mann, Sidman, & Starr, 1973). Despite the anti-pornography political agenda, the relevant research questions included whether and how viewing sexually explicit behavior influences the behavior of those who are exposed to it. According to the expectancy model of social learning theory, individuals who observe sexually explicit activity should be more likely to engage in similar activity than those who do not, because sexual behavior in pornography is most often presented in a positive context. Results have been inconclusive: Cairns' (1971) review of studies conducted in laboratory settings suggested only minor and transitory effects.

For example, Schmidt and Sigusch (1970) reported that men and women who watched pornographic films engaged in more short-term subsequent sexual activity than those who viewed a non-sexual control film. Mann et al. (1973) attempted to replicate non-laboratory conditions by obtaining customers at a movie theater and gathering couples' self-report data about subsequent sexual activity later rather than by attempting direct observation or questioning immediately afterwards. Mann et al. reported increased sexual activity by couples on the night following viewing of the pornographic movie, although there was no overall, long-term increase.

Both Schmidt and Sigusch (1970) and Mann et al. (1973) placed their results in the context of Rotter's social learning theory but were unable to make conclusive statements about the influence of social learning, as neither took direct measures of individual expectancies. Schmidt and Sigusch did measure some correlates of sexual conservatism (e.g., church attendance), which ought to have been informative regarding the valence of expectancies, but the findings were inconclusive. Similarly, Mann et al. suggested that their sample may have had some negative expectancies about pornography (inferences that were based on age and income). Although plausible, these inferences were untested.

The two preceding studies illustrate an important point about research in general and the relationship between sexuality research and social learning; that is, the empirical research seems to have preceded the theoretical application rather than the other (traditional) way around. Without framing hypotheses about sexual behavior based on social learning theory, one ends up presenting information "consistent with" rather than "supporting" social learning theory. One should bear in mind, of course, that neither Schmidt and Sigusch (1970) nor Mann et al. (1973) conducted

their research wholly for the purpose of validating social learning theory.

In contrast, Black and Blankenship (1974) specifically used the concept of expectancies to generate predictions about delinquent sexual behavior among girls. Girls who valued sexual affection but who reported low expectancies for gaining it under normal circumstances should engage in non-normal (i.e., delinquent) methods to gain affection. Comparisons of students from a public high school to students in a private "institution for delinquent girls" confirmed this hypothesis. The authors reported a rather hazy definition of delinquency, "acting out" that was "sexual in nature." One rather suspects that the 13- to 17-year-old sample were guilty primarily of engaging in sexual activity without social approval. Nevertheless, Black and Blankenship were able to derive hypotheses about and predict sexual behavior based on expectancies.

Since the publication of these studies, the theory and research of Bandura, Mischel, and their colleagues have been more widely cited in the sexuality literature. While examining the major concepts of social learning theory, we will cover the similarities and differences among the three theorists. Before this, however, we review the current areas of sexuality where social learning theory is applied and examine what it contributes to *how* these areas are studied.

Focus of Study

Sexual behavior can be studied within numerous scientific disciplines; in the social sciences alone, anthropologists, sociologists, demographers, and psychologists all contribute to our understanding of sexual behavior. In contrast to the relatively macro-theoretical formulations of anthropologists and sociologists, psychologists usually focus on the emotional, cognitive, and behavioral consequents of rewards and punishments—that is, learning (Fisher, 1986). True to its learning

antecedents, social learning theory has been helpful in predicting behavior from a combination of cognitive expectancies (using Rotter's terminology) and environmental contingencies.

What most clearly separates social learning theory from traditional classical or operant learning is not the particular areas of sexuality addressed by theorists and researchers, but instead the combination of personality and environmental constructs used to make predictions about sexual behaviors. Gelles' (1983) application of these general principles to spouse abuse (sexual and otherwise) follows classic expectancy lines. For example, the anticipated reward (pleasurable feelings of control, dominance, and/or sexual gratification) for an abusive husband for the act of beating his wife increases the likelihood of his engaging in the behavior. That the reward follows the behavior is typical of operant conditioning; a focus on the expectancy of reward helps explain why the behavior is initiated in the first place. A complete social exchange/control model adds, of course, the consideration of costs as well as rewards. The anticipated punishment of an abusive husband for beating his gun-carrying wife should decrease the likelihood of the behavior.

Second, social learning tends to focus upon a different level of behavior. The typical unit of analysis in classical behaviorism is the distinct, individual, or "molecular" behavior (e.g., Loevinger, 1987). Environmental situations are generally manipulated by the behaviorist to produce specific behavioral changes. Operant theorists are interested in the specific behavior that produces a given reinforcement, for example, cooking a special dinner for one's partner followed by sexual intercourse. (One wonders if operant learning's rather obvious quid pro quo aspects explain the popularity of social learning conceptualizations of sexual behavior.) Social learning theorists, on the other hand, tend to focus on modar

units of behavior—emphasizing cognition and the interaction between cognitions and environmental contingencies (as in Mischel (1973)). Consequently, the modal unit of analysis in social learning research is usually a class of behaviors with substantial individual variance. Empirical work relies on experimentally created or naturally occurring variations in cognitions and situations together (e.g., Fisher & Fisher, 1992).

We have previously mentioned four areas of human sexuality where theorists and researchers have made the most widespread use of social learning theory (i.e., the development of sexuality, adolescent contraception, health-related, and coercive sexual behavior). We will later review and evaluate the research in these areas in more detail to point out some common themes. One theme is the reduction of undesirable behavior. For example, the vast majority of health-related social learning models in the literature today are aimed at reducing the incidence of HIV infection and subsequent AIDS, either among the general population or within specific subgroups. In that vein, Des Jarlais and Friedman (1988) examined the sexual and injection practices of intravenous (IV) drug users. A common application for each of these areas of research is the need to induce at-risk populations to reduce risky sexual behaviors. A second theme is the incremental approach of most treatment programs derived from social learning-based sexuality research (with the exception of the development of sexuality). Finally, the role of cognition helps explain how new, pro-social and pro-health sexual behaviors may be maintained after the intervention, that is, when the researcher or treatment provider is no longer able to administer direct reinforcement.

Basic Assumptions

The major concepts of social learning theory rest on a series of assumptions about humans and human behavior. Some are inherent in learning theory, whereas others

are specific to social learning in particular. First and foremost, theorists and researchers assume that people are social beings in that they pay attention to the environment around them. An important addition to this assumption is that people react to the environment or respond to stimuli in the environment. This vital assumption means that sexual behaviors can be taught. A theorist need take no particular position vis-a-vis innate sexual drives, although many theorists do not believe such drives exist. For example, an individual may have a drive or possess a trait relating to achieving orgasm and still generate cognitive expectancies that moderate his or her behavior. Nevertheless, neither theorists nor researchers using social learning theory make conspicuous use of innate drives or traits.

Little use is made of the notion of pre-existing traits and other innate structures because of the assumption that a trait or trait-like behavior is created in conjunction with environmental stimuli. Approximate trait equivalents such as individual competencies (see the following description of Mischel) and perceptions of self-efficacy (see the following description of Bandura) are assumed to be constantly modified by environmental conditions. Mischel, Ebbesen, and Zeiss (1973) actually asserted that competencies are in part the result of responses to (perception of) stimuli. Because of these theoretical assumptions about the process of cognition, most social learning theorists view the introduction of innate drives as superfluous.

Thus far, social learning shares assumptions about humans with other learning theories. Unlike operant and classical theorists, however, social learning theorists have to add an assumption about the role of cognition. Because social behavior can occur without external reinforcement, such behavior cannot be predicted without reference to cognitions.

Individual cognitions mediate the cues from the environment. A nude member of whichever sex one normally finds attractive can elicit expectations of sexual pleasure, promoting an approach response. Alternatively, such a person may elicit expectations of disease, unwanted pregnancy, or sinful behavior, promoting an avoidance response. The specific researcher's task is to predict when one or the other response will occur.

Major Concepts and Theoretical Explanations

We have already provided some detail on Rotter's concepts, which drove much early social learning research. One of Bandura's studies (the "Bobo Doll") is also probably his most famous (Bandura, Ross, & Ross, 1961). In this classic experiment, Bandura et al. (1961) allowed some children to watch a man acting in a physically and verbally aggressive manner to a Bobo clown doll. The children who observed the adult were more likely to be aggressive toward the Bobo doll at a later time than those children who did not observe the adult or who saw an adult interact with the Bobo doll in a non-aggressive manner. In a similar scenario with another man's unpunished aggressive behavior toward a potential sexual partner, we could hypothesize that observers of the aggressive behavior would show an increase in aggressive behavior (via imitation) even without viewing an outcome such as sexual intercourse. Researchers and reviewers of the effects of violent pornography (Donnerstein & Linz, 1987) emphasize this point, as do those studying violence in dating (e.g., Nurius & Norris, 1996). Of course, if the man behaved in a non-aggressive fashion, observers would be expected to imitate that behavior as well.

Bandura (1969) hypothesized that the actions of the adults provided cues for the children with respect to appropriate behavior. Neither the Bobo doll study nor the effects of

violent pornography can be explained via operant conditioning theory alone. In fact, Bandura (1969) explicitly rejected operant conditioning as a valid explanatory model. The missing ingredient is the lack of direct reinforcement. Although the children's aggressive behavior could be predicted from the aggressive behavior of the adult that they viewed, no child was externally rewarded for any action, whether aggressive or non-aggressive. One has to rely on alternatives to direct reinforcement to explain the presence of unrewarded behavior. Although Bandura's version of social learning shares with Rotter's the assumption that behavior can be influenced in the absence of reinforcement, Bandura (1977) has largely dispensed with the notion of reward expectancy. Currently, he stresses social learning as a provider of motivation through enhanced self-efficacy (belief in one's ability to succeed at a given task), even in the absence of (direct) rewards (Bandura, 1986). The point here is not that rewards for behavior are irrelevant in behavior prediction—Rotter and Bandura both recognize that explicitly rewarded behavior tends to gain in strength. Social learning provides an explanation for behavior in the absence of an objectively quantifiable reward by making inferences about cognitions involving either expected rewards or task efficacy.

Continuing the evolution of social learning theory, Mischel (1968, 1973) proposed an interactive model of personality, which he labeled cognitive social learning. Cognitive social learning stresses behavior prediction via cognitions and environmental conditions. Mischel, however, particularly emphasized the interaction between the two and had a different viewpoint regarding cognition. In terms of cognitive elements, Mischel (1973) described cognitive "competencies" relating to individual differences in and influences upon information encoding strategies and subsequent behav-

iors. In cognitive social learning, competencies are equivalent to personality traits (Mischel et al., 1973) and potentially influenced by genetic and experiential factors. Environmental cues yield different contingencies that interact with individual competencies, producing behaviors that differ both from person to person and situation to situation. Analytically, one might think of this as a model where one expects a main effect for both individual competencies and environmental contingencies as well as a more substantial interaction effect between the two (the person-situation interaction). In the realm of sexual behavior, some cross-situational consistency is to be expected, but the strength of this enduring main effect should not be great. Mischel (1968) famously complained about a .30 barrier for correlating personality and behavioral measures. His contribution to enlarging this effect was to introduce the situation into personality as a systematic variable. The result was an explicitly cognitive extension of social learning theory, because competencies and contingencies affect each other and therefore affect subsequent situations. Over time, this person-situation variable becomes a more stable predictor of behavior, but it is continually refined via exposure to situations and one's perceptions of these situations.

In summary, all three theorists conceptualized social learning as a form of learning without reinforcement. All three agree that operant and classical conditioning are valid descriptions of behavior and that social learning can add predictive power beyond these two phenomena. Rotter suggested that cognitively generated expectancies about rewards are sufficient to predict behavior. Bandura has moved to the position that observation of others increases situational self-efficacy and thus the frequency of a behavior. Mischel stressed the reciprocal interaction between non-learned personality and situational influences:

Each influences the other at the same time and continues to do so across time. These major theorists clearly agree on many basic concepts, but just as clearly disagree on the mental processes they hypothesize to increase behavior prediction beyond simple learning, based on rewards and punishments.

Two anthropologists, Baldwin and Baldwin (1989), provided an excellent illustration of social learning that demonstrates some concepts behind the theory. Baldwin and Baldwin detailed the experiences of male members of the Sambian tribe in Papua, New Guinea, who engage in homosexual behavior in adolescence and heterosexual behavior as adults. Unlike some casual homosexual encounters among heterosexual adolescents in Western culture, Sambian boys form long-term emotional bonds with older, single males, including sexual contact. Furthermore, these relationships are virtually universal in Sambian culture. At the brink of adulthood (circa 17-20 years), this bond (at least the sexual component) ends, and the man seeks a wife. The switch in behavior precludes a purely biological explanation for sexuality, and most cognitive-developmental theories are oriented toward younger children. Social learning, which focuses on the cognitions about and imitation of others' sexual behaviors, can explain Sambian male sexual behavior at a proximate level. As virtually all boys undergo this pattern without much deviance from the pattern (Baldwin & Baldwin, 1989), the behavior sequence is hard to explain solely from a non-cognitive perspective. That is, both homosexual and heterosexual activity are reinforcing, and no punishment is applied to compel a behavioral change.

Theoretical Models and Research Outcomes

As previously mentioned, much of the more recent research using social learning falls into four categories. These content categories differ in the degree to which social

learning is applied (and the success with which they predict behavior). In this section we have tried to keep theory integrated with outcomes wherever possible, examining primarily content-specific theoretical models in conjunction with empirical outcomes. We begin with an area where researchers have made broad use of social learning, both to construct and to test models of sexual behavior.

Adolescent sexual behavior and contraception. Adolescent sexual behavior is a popular topic in sexuality research. Although adolescent sexual behavior involves a range of behaviors, feelings, and attitudes, a substantial proportion of social learning-oriented research revolves around teenage sexual behavior and birth control. Beyond the basic assumptions of social learning, it seems clear that adolescents are sexually conscious and that sexual behavior is likely to occur in the absence of strong inhibitory factors (or sometimes in spite of them). This research is generally, although not always (e.g., Hovell et al., 1994), separated from research about sexually transmitted diseases (STDs), and this section of our review deals with adolescent sexual behavior with respect to conception and contraception (adolescent and adult health-related research follows). Although researchers focus on behavior change in dependent measures, social learning frameworks in this area should also emphasize adolescent encoding strategies for contraception-related behavior as well as the amount of information they possess about contraception per se, particularly as information alone has only a small effect on adolescent sexual behavior (Kegeles, Adler, & Irwin, 1988). Working from Bandura's perspective, one notes that feelings of efficacy are also necessary if adolescents are to use contraception during sexual activity (Byrne, Kelley, & Fisher, 1993).

Although teenage pregnancy rates appear to have stopped rising (Guyer, Strobino, Ventura, & Singh,

1995), the approximately one million pregnancies per year reported by Forrest and Singh (1990) are high enough to be of substantial practical concern. Teenage parents rarely have the economic resources of older parents, and for mothers especially, pregnancy can disrupt schooling. Because of these stressors, and the increased risk of social sanction for pregnant adolescents, researchers have studied adolescent pregnancies in terms of how to reduce them for several decades (e.g., Byrne & Fisher, 1983; Juhasz, 1974). Byrne (1983) identified a five-step behavioral process aimed at effective contraception. Cognitive elements are engaged in the first and second steps, which concern gathering and processing information about contraception and acknowledging the likelihood of engaging in sexual intercourse. Social learning variables related to modeling, expectancies, and reinforcement (direct or vicarious) are brought into play during the third and fourth steps, respectively, obtaining the contraceptive and communicating with a partner about contraception. The fifth step is correct use of the contraceptive. The whole step-by-step process could easily be modeled in a behavioral social learning framework, with cognitions being matched to behavioral skills from either a Rotter-, Mischel-, or Bandura-type perspective.

More recently, Hagenhoff, Lowe, Hovell, and Rugg (1987) proposed that modeling and reinforcement of specific behavioral skills (rather than purely outlining potential actions and consequences) would help increase the use of contraception among adolescents. Hagenhoff et al. (1987) suggested that modeling would increase self-efficacy with regard to obtaining contraception. In line with the modal assumption of researchers of adolescent sexuality, the skills taught are aimed at increasing the use of contraception, rather than decreasing sexual activity. From the perspective of social

learning, sexual activity produces arousal, an unconditioned response. Furthermore, this arousal is usually pleasurable, and attempts to change cognitions about its positive valence are difficult. Stimulating the use of contraception via social learning should be easier.

Bassalone (1991) constructed a three-part model of adolescent contraceptive behavior based on social learning theory. The three components of the model are environmental context, cognitive influences, and (perceived and real) behavior-execution constraints. Attention to environmental context is equivalent to contingency information, as in Mischel's (1973) research, whereas the influence of Bandura can be seen in the potential to manipulate perceived behavior constraints (via self-efficacy). According to Bassalone, a social learning-based model of adolescent contraceptive-related behavior is a synthesis of previous socialization (i.e., operant conditioning) models and pure decision-making models. The presence of role models endorsing responsible use of contraception and accurate information about contraception and pregnancy are part of the environmental context. Adolescent thought processes about the consequences of contraception are also important and, in a social learning paradigm, can be modeled or taught. Finally, there is a focus on the actual behavior patterns that adolescents need to use to obtain and use contraception. From this summary, one can see the similarities to the Byrne (1983) five-step process and to the Hagenhoff et al. (1987) approach.

Bassalone has added another cognitive touch: Adolescents (or anybody considering use of contraceptives) are involved in calculating probabilities of becoming pregnant in the absence of birth control. Conceptually, this idea is new to social learning. Although Rotter was explicit about the nature of expectancies of rewards and punishment, he did not introduce the notion of calculating the likelihood of one versus the other.

Self-efficacy also influences probability calculations. Unrealistically high self-efficacy regarding one's ability to avoid pregnancy may cause individuals to ignore birth control or to rely on readily available but unreliable methods such as withdrawal. Indeed, Bassalone (1991) noted that adolescents' probability calculations are often highly inaccurate and subject to biases such as schematic processing (even when accurate information is available). Part of Bassalone's (1991) cognitive social learning approach to increasing contraceptive use would focus on correct encoding and use of available, appropriate information.

Barth, Fetro, Leland, and Volkan (1992) reported the results of a social learning-based program presented to 586 10th graders in California during 15 50-minute sessions. Barth et al. relied upon detailed communication about birth control (including abstinence), observation of role models, and even role play by the 10th graders—all the components of a good social learning approach. At the end of the program and at a six-month follow-up assessment, students demonstrated increased knowledge, increased intention to use contraceptives, and increased use of contraception, but no statistically significant decrease in pregnancy rates. The decrease could have been limited by restrictions on how contraception could be demonstrated (a behavioral constraint in the Bassalone model) and low baseline frequency of sexual intercourse. The latter was attributed to the age of the students. Moreover, Barth et al.'s results illustrate the importance of near total compliance for decreased rates of pregnancy because of the non-linear relation between contraception use and pregnancy rates.

Instead of focusing on adolescent sexuality via contraception, Benda and DiBlasio (1994) examined the value of variables derived from social learning theory in predicting adolescent sexual behavior. DiBlasio

and Benda (1990) noted that adolescents tend to engage in more sexual behavior when their friends engage in sexual behavior (both in terms of overall frequency and in having engaged in sexual intercourse at all). Suggesting that research involving adolescent sexual behavior was usually atheoretical, these authors proposed a model of general adolescent sexual behavior based primarily on principles of cognitive social learning. An unavoidable drawback of the study is that the survey method and limited demographic information (because of ethical reasons) precluded definitive statements about causality (i.e., that friends' sexual behavior caused participants' sexual behavior versus individuals' similarity about sexual attitudes leading to friendship). Bearing this in mind, DiBlasio and Benda (1990) hypothesized that frequency of intercourse would increase when adolescents identified positive outcomes from sexual activity (i.e., had positive expectancies) and associated frequently with peers who engaged in sexual activity (i.e., provided opportunities for modeling). Positive expectancies ($r = .39$), differential association ($r = .55$), and modeling ($r = .29$) were related to frequency of intercourse. Stepwise regression procedures indicated that all three variables predicted significant amounts of variance in frequency of sexual intercourse. Benda and DiBlasio (1994) successfully retested this approach.

The development of sexuality. Oliver and Hyde (1993), in the course of an extensive meta-analysis of gender differences in sexual behavior, presented a social learning view of sexuality development, using Mischel's paradigm as a source. Parents, peers, and the media are a source of role models for children (in the U.S.), and to the extent that these models behave sexually, and that the children have sufficiently developed encoding strategies, children tend to imitate sexual behaviors. As children are more likely to

be reinforced for same-sex imitation, they tend to pick up same-sex behaviors, which leads to the cognitive association of particular behaviors with male versus female sexuality. Oliver and Hyde (1993) suggested that it is impossible to separate the development of sexuality from sex-role development, as identification with one gender is often associated with specific behaviors. These behaviors, of course, can change over time as the surrounding environment changes (Oliver and Hyde juxtaposed the modeling effects of Doris Day and Madonna as a convincing example). Regarding older adults, Adams, Rojas-Camero, and Clayton (1990) found limited effects of modeling on the sexual attitudes and behavior of 61- to 91-year-old men and women. They suggested that the effects are limited primarily by negative prior personal expectations and perceived social approbation. This particular study was especially well immersed in social learning theory. Both the attempt to change attitudes and the explanation for resistance to change were phrased in terms of social learning. The findings of Adams et al., as well as Oliver and Hyde, can also be explained in terms of basic learning and other models (a point made clearly by Oliver and Hyde). The most valuable predictions would differentiate social learning theory from all other theories.

Van Wyk and Geist (1984) presented a social learning model of the development of sexual orientation (see also Houtt, 1983), although they were ambivalent about whether the model provides a complete explanation for homosexual/heterosexual behavior. Van Wyk and Geist (1984) noted that various environmental modeling experiences (for example, being masturbated by a same-sex or opposite-sex individual) predict same-sex and opposite-sex preferences in adulthood (particularly for boys). More generally, whether a first orgasm is reached via same-sex or opposite-sex contact has similar

predictive power. These findings are easily predicted from a social learning model, although also from a simpler reinforcement model. The individual forms expectancies or has cognitive encoding patterns with respect to the behavior. The behavior is modeled (increasing self-efficacy) and reinforced by the pleasurable physical sensations and the appreciation of the partner. The problem with this explanation lies in the assumptions of causality. It is possible that individuals become homosexual or heterosexual via social learning, but it is also possible that homosexual and heterosexual individuals seek sexual contacts with same- or opposite-sex partners. Van Wyk and Geist (1984) also presented data regarding aversive experiences with opposite-sex partners, focusing on adolescent girls who are molested by older men. The authors found that these girls were more likely to have women as sexual partners later in life; this finding, however, can be interpreted via classical conditioning with as much facility as social learning theory.

Health-related sexual behavior. Flora and Thoresen (1988) focused on the U.S. adolescent population, which tends to be highly sexually active, often without taking adequate protective measures against disease and/or pregnancy (Brooks-Gunn, Boyer, & Hein, 1988; Fisher & Mischel, 1990; Hovell et al., 1994). Lack of knowledge, however, does not seem to be the main issue. Wilson, Jaccard, Endias, and Minkoff (1993) reported that the modal reason that women (not necessarily adolescents) gave for failing to carry condoms was not ignorance, but a perceived social stigma. Flora and Thoresen (see also Kegeles et al., 1988) pointed out that information alone is rarely enough to reduce risky sexual behavior by adolescents. Drawing on Bandura's (1986) model, these authors suggested that adolescents' sexual behavior depends on the interaction between the environment and their cognitive

skills, and that risky sexual behavior results from insufficient social cognitive skills, such as the ability to resist peer pressure. Because social learning theory predicts that individuals can learn vicariously, watching others engage in successful resistance, for example, should promote the ability to resist sexual pressure from others (at least in the absence of threats and/or violence). In Mischel's terms, a cognitive social learning-based program will result in improved coding strategies, producing a less risky situation-specific behavior outcome. In Bandura's terms, individual self-efficacy is enhanced through observational learning, also predicting a reduction in risky behavior. Jaccard, Levinson, and Beamer (1995) reinforced the idea that education and practice are necessary. These authors found that, although some adolescents rely upon other "opinion leaders" for information about HIV and AIDS, the opinion leaders were no more likely to use or discuss condoms with partners than were non-leaders. Schinke, Holden, and Moncher (1989) have proposed a similar model for preventing HIV infection among Black and Hispanic adolescents, who are at particularly high risk. Schinke, Botvin, Orlandi, Schilling, and Gordon (1990) put this model to work, using a cognitive social learning orientation to construct a program aimed at reducing HIV infection among adolescent Blacks and Hispanics. The social modeling, along with stimulation of achievement-oriented ethnic pride and contingency information, resulted in increased safer sex practices relative to the adolescents' previous behavior.

As with the adolescent samples of Flora and Thoresen (1988) and Schinke et al. (1990), Des Jarlais and Friedman (1988) ascertained that information alone was not enough to reduce risky sexual behavior. In fact, IV drug users, who comprise the major source of transmission among heterosexuals, were often knowledgeable about the potential dangers

of needle-sharing and various forms of sexual activity with HIV-positive individuals. One might anticipate that the information alone would result in negative expectancies about risky sexual behavior, but Des Jarlais and Friedman observed few differences between knowledgeable and ignorant IV drug users. Instead, behavior change occurred only when the IV drug users learned different information-processing strategies (ways of conceptualizing the environmental contingencies) and behavioral responses to the contingencies, usually via modeling and practice. A strong point in favor of a cognitive social learning explanation for these findings is that new cognitive strategies can be readily learned—in contrast to attempts to bring about trait changes. These results could be explained through either increases in self-efficacy (Bandura) or enhanced cognitive skills, involving, for example, interpretation of and responses to contingencies (Mischel).

Although sexual partners of IV drug users are not as often the focus of study, compared to drug users themselves, these partners are also at high risk for STDs, including AIDS (Rhodes, Wolitski, & Thornton-Johnson, 1992). Rhodes et al. (1992) examined the behaviors of female sexual partners (FSPs) of male IV drug users. FSPs participated in a program initiated by a collection of California mental and physical health professionals to increase risk-reduction motivation for FSPs and "provide them with cognitive and behavioral skills necessary for behavior change" (Rhodes et al., 1992, p. 262). The program was derived from a theoretical rationale, including social learning, a procedure somewhat unusual for intervention programs (Flora & Thoresen, 1988). The California group modeled appropriate behaviors (e.g., insisting on condom use, refusing sexual contact) and reinforced the behavior of models, providing a source of vicarious learning. Operant learning techniques were not ignored, as participants in role

play were also rewarded for risk-reducing behavior (direct reinforcement).

A common theme throughout these studies is the need for at-risk populations to learn how to reduce risky sexual behaviors. Kelly and St. Lawrence (1990) reported that their population of focus (gay males not in settled relationships) recognized that they were at some risk for HIV and were generally interested in reducing HIV risk, but they did not behave in ways that provided the least risk. A university sample reported concern and seeking information about AIDS without much actual preventive behavior change (Fisher & Miscovich, 1990). In common with the adolescent, university student, IV drug user, and FSP samples, gay males expressed both knowledge and motivation; the role of cognitive social learning models was essentially to put the two together in ways that would produce behavioral changes. Impressively, these programs and models have been theoretically driven and practically successful. The same principles could be applied to groups not mentioned here, as virtually everyone is at some risk for HIV.

Similarities in conceptually driven treatment programs and models for different groups suggest that a generalized model of sexual behavior as it relates to health is plausible. We were unable to find a completely generalized model, but Basen-Engquist (1992), Fisher and Fisher (1992), and Fisher, Fisher, Williams, and Malloy (1994) proposed and tested models applicable to all young adults. Basen-Engquist, whose model is presented in Bandura's terms, examined self-efficacy as a predictor of sexually risky behaviors with social support as a stimulator of self-efficacy (e.g., via modeling or expected reinforcement). Level of self-efficacy (which is task specific) predicts perceptions of barriers to risk-reducing behaviors, and consequently, intentions and behaviors themselves. Basen-Engquist (1992) chose to keep cognitive coping strategies and perceived susceptibili-

ty independent of social learning elements. This follows from the specific models (Flora & Thoresen, 1988; Schinke et al., 1989) and empirical findings (Des Jarlais & Friedman, 1988; Rhodes et al., 1992; Schinke et al., 1990) discussed previously, as knowledge of the risks is not a key factor in these studies. In Mischel's terms, self-efficacy would be replaced by encoding strategies, and social support would still include transmission of those strategies directly, rather than as measured through self-efficacy. Testing the model, Basen-Engquist found that self-efficacy was significantly related to social support ($r = .30$) and discussion of risks ($r = .22$), although not directly to condom use. Path analysis yielded significant path coefficients from self-efficacy to condom use and discussion with perceived barriers and intentions to discuss as respective mediating variables. This model, which may well be applicable to populations other than young adults, has the advantage of incorporating a full version of social learning, with strong emphasis upon cognition (coping, perceptions of barriers) and environmental contingencies (social support).

Fisher et al. (1994) tested a model combining informational, motivational, and behavioral skills training to reduce AIDS risk on a group of gay males and a group of university students. Fisher et al. introduced social learning variables via behavioral skills. These skills were enhanced by motivation and information and mediated the relationships between the former variables and AIDS-preventive behavior. Specific behavioral skills could be taught via cognition-environment scripts (note the similarity to Mischel's emphasis) and modeling, which Fisher and Fisher (1992) proposed would increase self-efficacy.

Coercive sexual behavior. Social learning analyses of coercive sexual behavior appear to encompass two groups defined by age (adult offenders and adolescent offenders), and

one could add child abusers as a special case. Many researchers (Freeman-Longo, 1986; Gwartney-Gibbs, Stockard, & Bohmer, 1987; Marshall & Barbaree, 1984; Rouse, 1991; Wilson, 1977) focused on social learning as an explanation for perpetrators' actions, rather than the actions and reactions of victims (Walker & Browne, 1985). Other researchers (Epps, 1994; Orr, 1991; Sermabeikian & Martinez, 1994) suggested social learning-derived treatment programs for offenders. Finally, a substantial amount of research takes place within the context of relationships because of the prevalence rates of coercive sexual behaviors between partners (Russell, 1990). Social learning-derived explanations in this subject area are not without problems, but experimental work in this area is extremely sensitive to ethical violation, and thus difficult.

Marshall and Barbaree (1984) advanced a social learning model of adult coercive sexual behavior, specifically, heterosexual rape, by male strangers. Although acknowledging the possibility of biological factors in rape, Marshall and Barbaree (1984) suggested that coercive encounters are due primarily to the underlying social incompetence of the rapist. From this perspective, male stranger rapists have few cognitive skills related to interacting with women and are unable to create or maintain situations where non-coercive intercourse is possible. Marshall and Barbaree (1984) also cited the highly conservative, erotophobic attitudes of male stranger rapists in their sample (e.g., that sex is dirty, and wholesome people avoid it). In social learning terms, male stranger rapists have negative expectancies about the moral value of sex and willing partners and have insufficient cognitive skills to take advantage of the relevant environmental contingencies. Furthermore, Marshall and Barbaree found that male stranger rapists tended to believe rape myths (Burt, 1980) and that almost half their sample chose to expose them-

selves to violent pornography on a regular basis. In terms of altering such behavior, Marshall and Barbaree suggested behavioral treatment via aversive conditioning, coupled with cognitive skills training to separate the idea of sex from aggressive behavior. A study of the mediating effect of alcohol in diminishing cognitive skills in potentially sexual situations (Wilson, 1977) may be of additional value to a social learning analysis of male stranger rape: Both stranger and acquaintance rapists tend to abuse alcohol more frequently than non-rapists (Cook & Moore, 1993; McGrath, 1991).

Social learning-oriented research with adult non-sexual offenders within relationships is common and at the stage where causal models are advanced (e.g., Stith & Farley, 1993). Because sexual and nonsexual violence within relationships are highly correlated (Gelles, 1983), separate models for coercive sexual behavior within relationships are relatively rare.

Adolescent coercive sexual behavior tends to occur within the context of relatively short-term relationships, including one-night stands (Gwartney-Gibbs et al., 1987). Gwartney-Gibbs et al. advanced a learning-based theory of adolescent courtship aggression based on the influence of family and friends. Noting that males who aggress almost always have sexually aggressive peers, Gwartney-Gibbs et al. suggested that the presence of sexually aggressive others can facilitate coercive sexual behavior without an explicit link being drawn. The lack of this explicit link (and reward association) is the difference between a conditioning-based model and a social learning-based model. In Rotter's terms, the observation of others' behavior contributes to positive expectancies regarding sexually aggressive behavior, which reminds us of Hovell et al.'s (1994) point that sexual pleasure is a potent reinforcer in and of itself. Beyond peer activity, Gwartney-Gibbs et al. fo-

cused on offspring of parents with abusive relationships (either or both parents may be abusive) and personal experiences with sexual aggression as modeling-oriented predictors of coercive sexual behavior. Results showed positive and independent effects from all three areas. That experience as a victim of coercive sexual behavior predicted coercive sexual behavior is interesting, as it fits well with Bandura's concept of reciprocal determinism. The fact that most researchers of adolescent coercive sexual behavior studied only male perpetrator sex is a confounding variable (Hogben, Byrne, & Hamburger, 1996). Tontodonato and Crew (1992), however, examined a sample of male and female offenders and found that social learning variables, specifically knowledge of dating violence by others and experience with parent-child violence (both modeling related), predicted courtship violence among female adolescents. This study helps address another potential confound in Gwartney-Gibbs' and others' work; sexually aggressive individuals may simply be attracted to one another's company, explaining the higher rates of aggressive peers among sexually coercive teenagers. The results reported by Tontodonato and Crew, however, assess social learning variables occurring prior to courtship violence.

Beyond models for how adolescent coercive sexual behavior begins, recent social learning models have been used to construct and apply treatment programs for adolescent offenders (e.g., Epps, 1994; Orr, 1991; Sermabeikian & Martinez, 1994). Orr (1991) emphasized the environmental side of social learning in examining the background of adolescent sexual offenders, many of whom have experience as the victim of sexual abuse as well as the perpetrator of sexual abuse (Seghorn, Prentky, & Boucher, 1987). Orr's (1991) treatment model is aimed at restructuring the contingency-dependent cognitions of offenders, that

is, altering the thought patterns immediately prior to sexually abusive actions. The model was drawn from Mischel's conceptualization of social learning. To change the behavior outcome of the cognition-situation unit, it is necessary to change either the cognitions or the precise situation. If the young offender is to be released eventually, the situation may well occur again; thus, the cognitions will have to change if the behavior is not to recur. The relatively high recidivism among sexual offenders (including child sexual abusers) testifies to the difficulty of the task, which is also constrained by specific requirements of the juvenile justice system (Epps, 1994).

Sermabeikian and Martinez (1994) outlined a specific treatment program for adolescent sexual offenders based on Bandura's (1986) cognitive social learning model of reciprocal determinism and collateral work by Laws (1989). Early treatment is recommended to preempt the reinforcing effects of sexual gratification. Direct reinforcement is a difficult hurdle to overcome when trying to alter offenders' cognitions and develop pro-social behavior. The strength of love and affection as expectancies (Rotter, 1954) suggests that gratification achieved via caring and understanding might be useful in replacing gratification from abusive sexual practice. Epps (1994) pointed out that it is difficult to keep therapists and staff in such a frame of mind with respect to sexual offenders, particularly those who are in the program on remand rather than on a voluntary basis.

Child sexual abusers are among the most difficult individuals to assess and treat. Freeman-Longo (1986), examining the etiology of male sexual abusers, noted that almost 80% of his sample reported prior experience as a child victim of sexual abuse. Petrovich and Templer (1984) reported a lower but still substantial figure of 59% in a sample of 83 adult rapists. A classical or an operant learning analysis alone does

not necessarily predict adult sexual abuse, as the original experience is often highly aversive and would tend to promote avoidance of coercive sexual situations. If cognitive variables are introduced, however, the victim may recognize the pleasure the abuse gives to the perpetrator and generate positive expectancies for such behavior as an adult. As supporting evidence, Freeman-Longo (1986) reported that some sex offenders he interviewed experienced sexual arousal while discussing their abuse and that they tended to downplay the trauma of their victims.

Finally, Hoier (1987) focused on treatment of victims of child sexual abuse rather than child abusers. Hoier suggested that humanistic and psychodynamic treatments can be useful for individuals but lack generalizability. Although a mental health professional treating a victim of sexual abuse is primarily interested in what helps the victim at hand, a model that could be used as a template for treatment is likely to be highly useful. Hoier (1987) outlined classical and operant conditioning processes in child abuse and the accompanying expectancies and self-appraisals. The cognitive elements are vital for the utility of social learning, of course, as otherwise one would fall back on the more parsimonious learning models. Treatment is primarily aimed at changing the cognitions and expectancies of children regarding the situations where sexual abuse occurs, rather than trying to counter the conditioning elements directly. As with the treatment programs for adolescent offenders discussed previously, the advantage of Hoier's conceptual work is that one can derive a treatment from it and thus more definitively test both the underlying theory as well as the efficacy of the treatment.

Critique and Evaluation

The general theoretical constructs of Rotter (1954) have been examined, modified, and developed by

multiple theorists on a reasonably continuous basis by the major theorists (i.e., Bandura, 1977, 1986; Mischel, 1968, 1973; Rotter, 1966, 1990), as well as by others in specific fields (Grusec, 1992; Kihlstrom & Harackiewicz, 1990; Palenzuela, 1987). This ongoing theoretical evolution helps to keep the paradigm dynamic and advancing. Sexuality researchers continue to use and adapt social learning theories (Basen-Engquist, 1992; Bassalone, 1991; Fisher & Fisher, 1992), helping to keep theory and research current and continuous. This active process certainly does not prove that the paradigm has no fundamental flaws, but the current state of largely continuous examination by competitive general and area-specific authors gives one more confidence in the basic structure of the paradigm. Human sexuality research, however, has lost some of that competitive element. Although various sexuality-specific researchers have advanced specific models, they are almost without exception based on Bandura's principles without reference to either of the other two major theorists, even when parallels can be drawn (as we have tried to do in this article). Current researchers use cognitive social learning perspectives drawn explicitly from Bandura's (1977, 1986) foundation work on self-efficacy and reciprocal determinism in cognitive social learning rather than on work by Mischel (1968, 1973) or Rotter (1954, 1966). In the content-based articles reviewed here, 85% of the authors cited Bandura, whereas only 5% cited Mischel, and 1 cited Rotter. This circumscribed pattern of attribution has the effect of closing off a rich portion of basic theory and reducing the amount of valuable potential competitive evaluation.

All cognitively oriented learning models and their sexuality-oriented derivations tend to be clear and composed of distinct, albeit interacting, variables. In examining for human behavior, they have the advantage, relative to behaviorism and psycho-

dynamics, of making specific use of both internal processes (encoding processes, expectancies, feelings of efficacy) and the external environment. Moreover, the variables pertaining to each area are delineated in terms of their interrelationships. Cognitive social learning-derived variables tend to be measurable, proximate, and, to an extent, manipulable (as opposed to pure biological and genetic models, which tend to employ mediating variables to explain human behavior). For example, when Rhodes et al. (1992) wished to reduce risky sexual behavior among FSPs of male drug users, the researchers could make use of a coherent existing model of human behavior in this case. Bandura's reciprocal determinism. Rhodes et al. could then apply the constructs within the theory to the FSPs' cognitions about sexual behavior with their drug-using partners and to specific environmental situations. The individual variables are identifiable and distinct, and the influences of each upon the others are specified by the theory. The resulting area-specific model is easily testable, as changes in one variable predict specific changes in behavior (this is measured as the dependent variable) based on the new, inferred cognition-environment interaction. Rhodes et al. taught new cognitive strategies (resistance, communication) to the FSPs, resulting in behavioral changes in sexual situations. Finally, the change in behavior is attributable to the change in cognitions.

Although conceptually clear, social learning is not completely open in an empirical sense. From the previous example, one can see that the essential cognition-behavior is inferred and cannot be measured directly, as can the individual elements. This inferential process is precisely what behaviorists try to avoid, believing that the addition reduces parsimony without adding predictive value. Social learning theorists argue in return that the inferential process does account for behavioral phenomena that learning

does not—for example, imitation without reinforcement. Nonetheless, the inferred cognition-environment unit reduces the proximity of the measurable components of the theory to the behavioral dependent variable.

A second area that lacks clarity is causality. This may come as something of a surprise, as social learning models have often been tested experimentally, including experiments involving sexuality. Once again, the central concept of the cognition-environment unit is the culprit. Bandura (especially relevant to sexuality research) espoused the principle of reciprocal determinism, where each element in the model influences the others. The result is that a researcher conceptually manipulates all elements of the model when superficially manipulating one component. This is not troubling from an applied point of view, such as changing a behavior pattern, which is the focus of much sexuality research. From a theoretical point of view, it reduces the ability of the researcher to point out a specific causal relationship.

Research on sexually coercive populations in particular presented a problem. Unlike the theoretically derived programs encountered in studies of adolescent sexuality and contraception, the work on sexual offenders suffers from the problem of fitting extant findings to theory after the fact. Freeman-Longo's findings, although apparently consistent with social learning theory could also be explained in psychodynamic terms, for example, identification with the abuser. Abused individuals who identify with their abusers as a defense mechanism may well engage in the same (or similar) behaviors at a later date. Moreover, the abusers' emphasis upon the "pleasurable" aspects of the abusive episodes (as victim and as abuser) could be as much an indicator of repression as anything else.

Overall, social learning models in sexuality research are comprehensi-

ble, comprehensive, and testable, bearing in mind the previously mentioned considerations. The majority of empirical studies that test social learning have yielded support for the paradigm. The models are not, however, universal; in certain areas such as child sexual abuse, there is a tendency to use inductive processes to fit empirical findings to the social learning rather than use social learning to derive hypotheses about the subject matter. This informational consistency stance (as in "this evidence is consistent with social learning theory") is certainly not useless, but it also is not a substitute for deduction of hypotheses about child sexual abuse from social learning theory. The major problem that arises from post hoc theory fitting is that it becomes hard to rule out competing explanations. Against criticism of researchers, however, one must remember the ethical issues involved here and for sexually coercive behavior in general. Researchers must generally work with correlational data gathered after the fact; for obvious reasons, one cannot manipulate coercive behavior per se.

Sexuality researchers may feel uncomfortable with the idea of excluding affect from the general model, or at least subjugating it to cognition. This is particularly relevant, as affect would seem to be an important, even cardinal variable in predicting sexual behavior. People talking about sex tend to speak in affective rather than cognitive terms. One cannot refute the utility of social learning based on this; Rotter and Mischel certainly referred to cognitions about affective conditions (e.g., one has positive expectancies about pleasure and the reinforcing value of anticipation about sex). Nonetheless, it is hard to conceive of task-specific efficacy as natural to sexual gratification. In spite of various prohibitions to the contrary, much more sexual activity concerns recreation than procreation.

Finally, there is the question of relatively new biosocial models of

human development (including sexuality). As cognitive social learning purported to add a new, useful element (i.e., cognition) to pure behaviorism, modern biosocial models (Belsky et al., 1991) purport to add the concept of biological influences to a purely social model. Belsky et al. (1991) paid particular attention to cognitive social learning and theorized that a mixed biosocial model, with biological processes as the underlying element and social learning as relatively minor secondary elements, has more explanatory power and predictive value than a social learning model alone. This process is analogous to the interaction between behaviorists and social learning theorists. Oliver and Hyde (1993) noted that biosocial models tend to make the same predictions about human sexual behavior as social learning models. In this case, one could argue that social learning is more parsimonious, but the proponents of biosocial models counter by being more definitive about causality (biological mechanisms). In addition, biosocial models take more facets of the human condition into account. A major stumbling block for biosocial theorists is the difficulty of generating hypotheses that are testable (in the short term); without these, it is hard to see how the model, however pleasing conceptually, can compete with the readily testable elements of social learning. Opinion over whether this is possible is mixed at the present time.

Cognitive social learning theory in human sexuality has been a valuable source of theoretical explanation and has been used in conjunction with theoretically generated research, especially applied research. Nevertheless, basic and applied researchers and pure theorists alike should address some important caveats. Sexuality research would also be improved if all researchers were to follow the procedure of the best, but this is surely common to any paradigm. Social learning is likely to continue to be modified, refined, and challenged by other paradigms, which ought to be

healthy for social learning theory, the research generated from it, and, ultimately, our understanding of human sexual behavior.

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